

ABSTRACT

A system and method for providing an interoperable network communication architecture for commercial off-the-shelf (COTS) computers, COTS network interface units (NIUs) and COTS programs uses three main programs integrated into one software library: a computer NIU driver, an IPP loop and an API. The NIU driver transfers network communicated data from the NIU to the OS physical memory with only one physical copying and uses the existing OS's functionality to map the data to the application address space. An integrated protocol processing loop performs all protocol processing on CPU word size increments, including checksum calculations, with minimal reads and writes. The IPP loop is integrated with the NIU driver and the API software functions. The API provides an application program interface very similar to the pre-existing, COTS OS APIs, making the interface transparent to pre-existing applications.